

Buildings & Facilities Report Out Slides

Presented To: Community Resilience Panel

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Gaps and Needs in Sector

1. What are the largest gaps and needs within your sector that need to be addressed in resilience planning and guidance products?

- a) **Methodology** to determine criticality (functions determine criticality) to drive design criteria. Define “critical” – level of importance is highly personal
- b) How are threats selected (i.e. 100 year event). Netherlands use 10,000 years.
- c) Training for post-disaster **training**, code official (damage evaluations)
- d) Encourage states to adopt Good Samaritan Laws and utilize EMAC for resources
- e) Communication of all hazard risks and where
- f) Land use and transportation planning and policy, informed by risk and resilience
- g) Considering life cycle of building with regards to risks and climate change: communication of
- h) Imbalance in federal programs for resilience: expenditures in mitigation are less than response
- i) Emergency managers need to be trained of engaged in Mitigation not just Response.
- j) Code Adoption and Enforcement and Special inspections for quality assurance
- k) Code Plus – code is not resilience, more than life safety – general health and wellbeing of whole community; short and long-term performance
- l) Cost-benefit analysis of building resilience to also reflect community value (dependencies)
- m) More research on true resilience (unintended consequences vs public health)
- n) More personnel in sector (code officials, inspectors)
- o) Disconnect community development and emergency managers
- p) Actionable climate science for project level (design decisions); unintended consequences
- q) Asset inventories to understand interdependencies

Gaps and Needs in Sector

2. Identify significant interdependencies and gaps with other sectors that impact resilience.

- a) Asset inventory. Need unified performance goals and design criteria from source to use; can't guarantee performance of a building without it (and critical infrastructure standards)
- b) Codes are developed in silos (see group's breakdown of sectors)
- c) Codes are written as prescriptive standards, but resilience requires performance standards
- d) Codes are based on historic data and are a minimum performance standard
- e) Need for performance modeling based on hazards and other impacts
- f) Individual choices cause social benefits and costs to others
- g) Vulnerability assessment design tools; also consider surge capacity for emergency use
- h) Addressing the [existing] built environment in regulations: codes are triggered to existing buildings based on voluntary upgrades; communicate risks
- i) Adaptation strategies and Resilience strategies
- j) Creation vs adoption of codes timeline (technology, lessons learned)
- k) Awareness and education of risk to public and property managers
- l) Commercial & government cost-share in recovery
- m) Standards and education for shelter-in-place and continued operations for basic and critical needs facilities

How do we Solve the Problems?

3. How do we address the needs and gaps we identified?

- a) Include all community needs in planning (including equity)
- b) Optimize use of existing community rating systems (e.g. CRS Rating System)
- c) Risk analysis with “Resilience” Building Performance Score like credit score
- d) Resilience to drive Bond Rating or PACE (Property Assessed Clean Energy)
- e) Learn from sustainability “movement”- development certification?
- f) Promote and advocate for policies and practices that reduce climate impacts (e.g. green infrastructure)
- g) Need insurance incentives or other immediate rewards
- h) NIBS MMC Incentivizing resilience – review
- i) Be the voice of the built environment
- j) Education and coordinated communication
- k) Land use opportunities and promote community service redundancies: incentive development to meeting community vision and goals
- l) Invest more [federal, etc.] dollars ahead of the disaster

How do we Solve the Problems?

4. Are there others we need to engage to help us address these needs? Others may include SMEs/groups not at the meeting in your sector or SMEs/groups from other sectors.

- Broaden participation with associations representing commercial sector (cities, counties too)
- Emergency responders and VOADs:
- Faith-based, non-profit, NGOs (other community leaders)
- Chambers of Commerce, Business improvement districts, corporations
- Rockefeller's 100 Resilient Cities shared lessons learned

Existing Guidance/Ongoing Efforts for Resilience in Sector

5. What are existing codes, standards, guidance, goals, and/or protocol that have been published, or are in-process, in your respective sectors?

- See TISP list
- See NIBS MMC
- ANSI
- Homeland Security Panel standards
- ULI report
- OARS
- RELi
- ASTM committee E06 – resilience standards for buildings
- Passive House
- NFPA 1616 – mass evacuation and sheltering (NFPA 1600 series & NIST)
- IBHS Fortified
- NIST Community Resilience Planning Guide